MURIEL BOWSER
MAYOR

JAN 29 2020

The Honorable Phil Mendelson
Chairman, Council of the District of Columbia
John A. Wilson Building
1350 Pennsylvania, NW, Suite 504
Washington, DC 20004

Dear Chairman Mendelson:

On behalf of the Fire and Emergency Medical Services Department (FEMS), enclosed for Council review, please find the "Emergency Medical Services Transport Contract Authority Third Annual Report (April 2018 – March 2019)."

This report evaluates performance under the contract and includes the following information: (1) The impact on the Department's unit availability; (2) The impact on the Department's fleet, including the ability to conduct preventative maintenance and the number of operational and reserve units available; (3) The impact on the Department's training schedule; (4) The impact on the Department's response times and quality of patient care; (5) An assessment of the number of units, the number of personnel, the amount of training, and associated costs required to provide pre-hospital medical care and transportation without the use of third parties; and (6) Recommendations for implementing any additional units, personnel, and training.

The responses contained in this annual report are based on the best available data between the dates of April 1, 2018 and March 31, 2019. In our first annual reports in 2017 and 2018, we reported on the positive impact that our contract with American Medical Response (AMR) has had in each of the above areas. We are pleased to report that this progress has continued in the third year of implementation. Above all else, the contract has enabled us to continue to improve patient care and service to the residents and visitors of the District of Columbia. The third year of the AMR contract has supported the efforts of FEMS to improve the delivery of pre-hospital medical care to the visitors and residents of the District. As the Department continues to address the increasing demand for limited resources, this contract has been an efficient use of District resources to date.

Sincerely,

Muriel Bowser

Muriel Bowser
Mayor

Government of the District of Columbia
Fire and Emergency Medical Services Department

Gregory M. Dean
Fire & EMS Chief

Emergency Medical Services Transport Contract Authority

Third Annual Report (April 2018 – March 2019)

December 2019

As part of the "Fiscal Year 2017 Budget Support Act of 2016," Mayor Bowser proposed and the Council approved the "Emergency Medical Services Transport Contract Authority Amendment Act of 2016."

Under D.C. Code §5-401, the Fire and Emergency Medical Services Department (FEMS) may contract with third parties to provide supplemental pre-hospital medical care and transportation to persons requiring Basic Life Support (BLS). FEMS is required under the statute to provide an annual report to the Council regarding third party contractor operations.

This report evaluates performance under the contract and includes the following information: (1) The impact on the Department's unit availability; (2) The impact on the Department's fleet, including the ability to conduct preventative maintenance and the number of operational and reserve units available; (3) The impact on the Department's training schedule; (4) The impact on the Department's response times and quality of patient care; (5) An assessment of the number of units, the number of personnel, the amount of training, and associated costs required to provide pre-hospital medical care and transportation without the use of third parties; and (6) Recommendations for implementing any additional units, personnel, and training. The responses contained in this annual report are based on the best available data between the dates of April 1, 2018 and March 31, 2019.

In our first and second annual reports in 2017 and 2018, we reported on the positive impact that our contract with American Medical Response (AMR) has had in each of the above areas. We are pleased to report that this progress has continued in the third year of implementation. Above all else, the contract has enabled us to continue to improve patient care and service to the residents and visitors of the District of Columbia.

(1) The impact on the Department's unit availability.

The AMR contract has been one of the most significant factors in the Department's improved unit availability. The Department launched the AMR contract on March 28, 2016. Since June 2016, we have regularly had 11 or more FEMS transport units available over 90 percent of the time. During some weeks, this measure was achieved 100 percent of the time. The contract also enabled us to convert three BLS units to Advance Life Support (ALS) units in March 2017. The addition of these ALS units, combined with the Department's transition to Criteria Based Dispatch (CBD) in April 2018, improved our ALS unit availability. Since the launch of CBD, we are now more accurately dispatching calls, and ALS dispatches have decreased from 48% of calls to about 32% of calls. With a few exceptions, we have had five or more ALS transports available over 90 percent of the time since March 2017.

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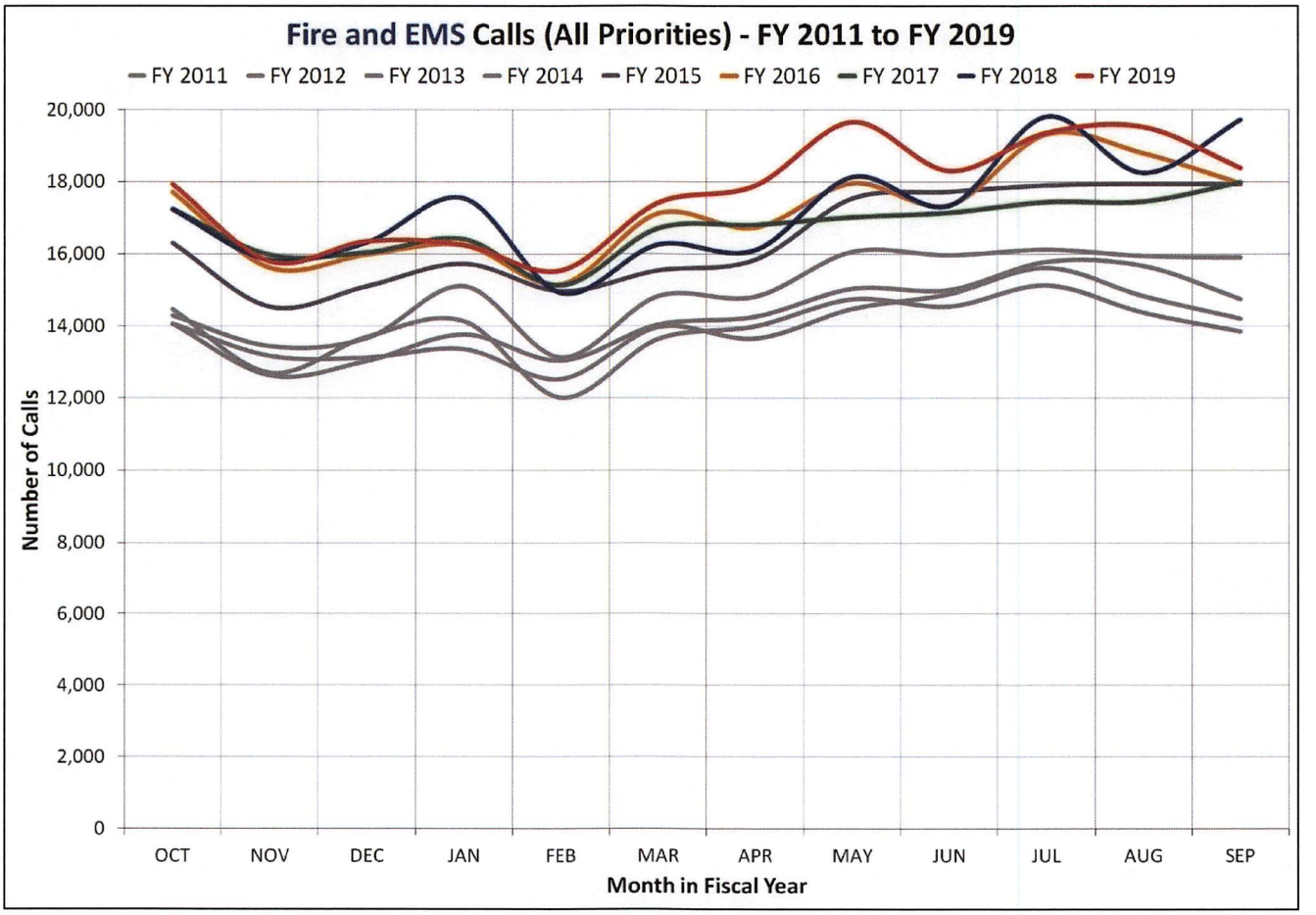
While the AMR contract improved overall and BLS unit availability during its first two years, the CBD launch, combined with a growth in EMS call volume during the same year, has resulted in new pressures on our BLS unit availability. We believe the closure of Providence Hospital, which has increased our hospital "drop times," has also impacted our BLS unit availability.

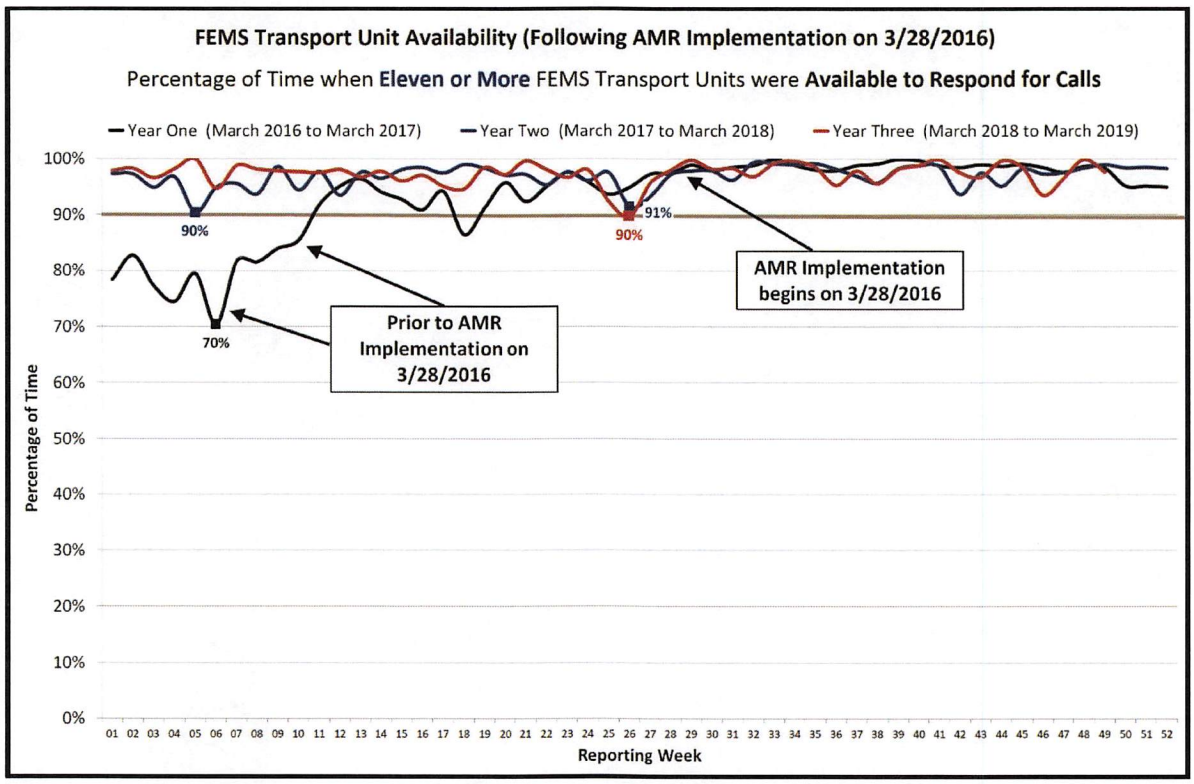
Since the last annual report, the Department has seen historically high EMS call volume, including reaching historic levels in October 2018 and February through April 2019. Factors which may be impacting call volume include:

Weather	Synthetic Drug Calls	Growing Population
•We experienced a warmer year than last year, which was unusually cool. Weather tends to be the most reliable predictor of our call volume.	•We have experienced consistently high rates of synthetic drug calls. In previous years we experienced "seasonal spikes" in the warmer months, but this year we have endured unusually high levels of calls during the winter and early spring months.	•The recent growth in population in the DMV area has been a factor in our call volume increases.

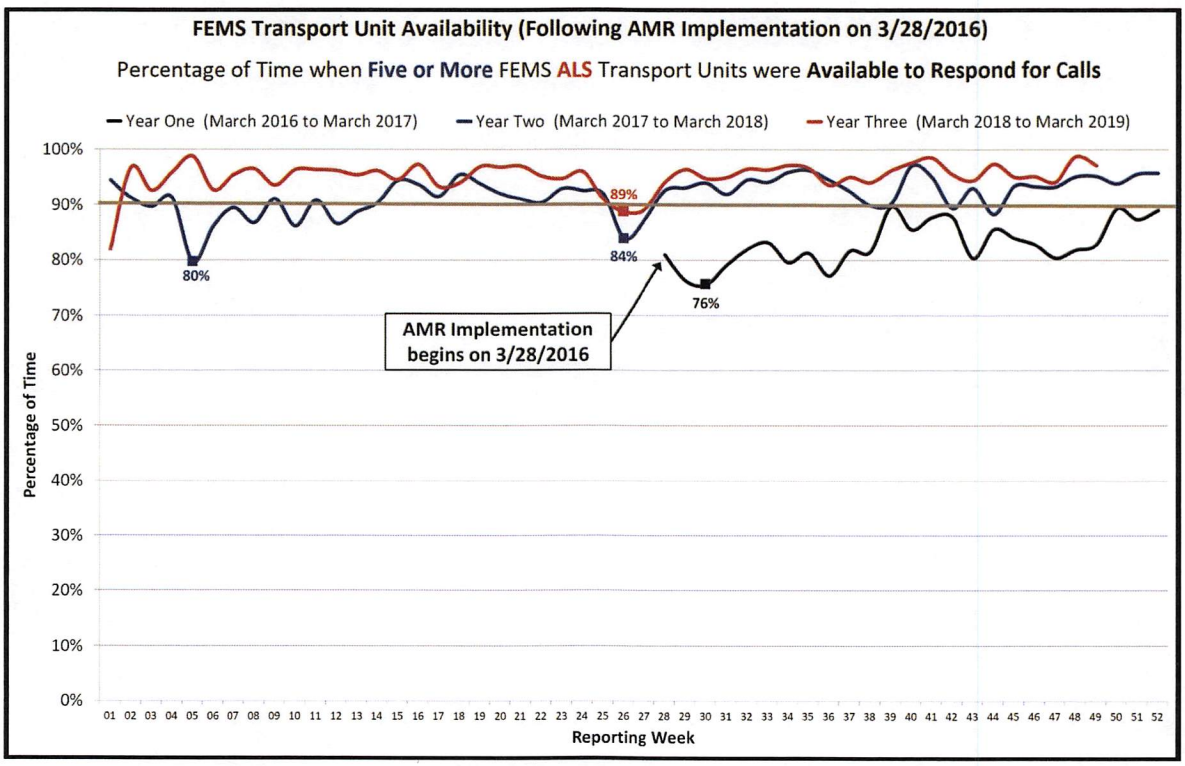
The following chart shows this increase in call volume:



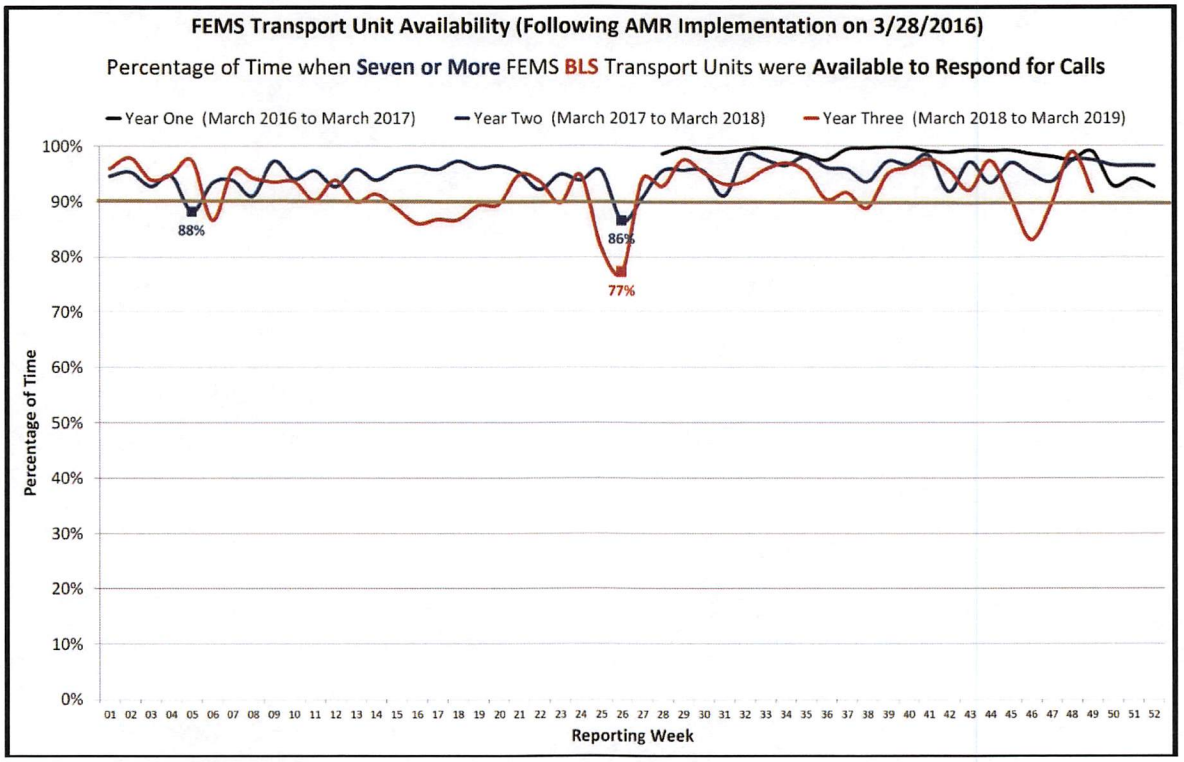
For details on our unit availability trends, please refer to the following charts. The first chart shows the improvement in our overall transport unit availability since the launch of the AMR contract (it also shows unit availability before the launch).



The second chart shows improved ALS unit availability in years 2 and 3 of the contract.



The third chart shows improved BLS unit availability since 2016, while also demonstrating the new strain on BLS unit availability in 2018-2019:



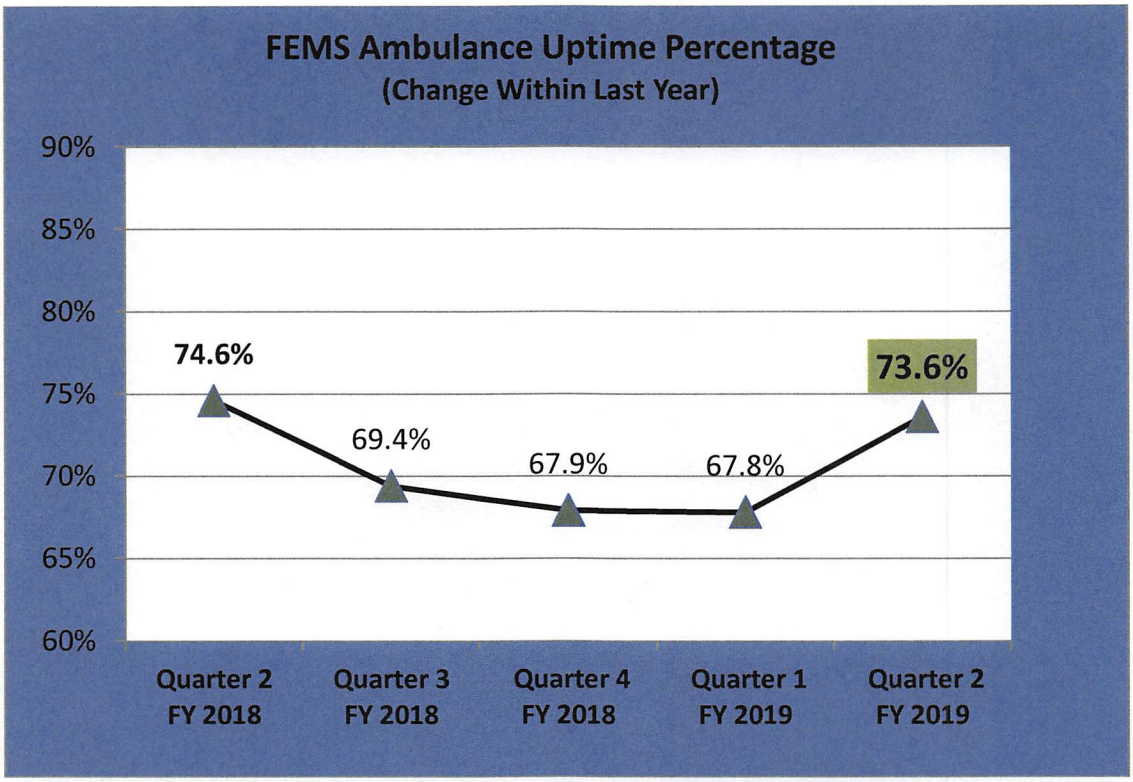
Since the closure of Providence Hospital, we have seen dips in unit availability to levels that we have not seen since before the AMR launch, which we are monitoring. Limitations in hospital capacity and efficient patient flow through hospitals have been an increased factor since the closure of Providence and caused the Department's drop times to increase by four minutes. Fortunately, our FY 2020 budget adds four ambulances to our daily deployment, which has helped alleviate this issue and which were in service on an overtime basis during the summer of 2019. As of the submission of this report, Ambulance A-03, A-08, A-19B and A-30B are in-service in neighborhoods in the center and eastern ends of the city, where we have the highest call volume.

The addition of four new full-time ambulances may help with this measure but call volume and the challenges created by the closure of Providence will continue to be barriers.

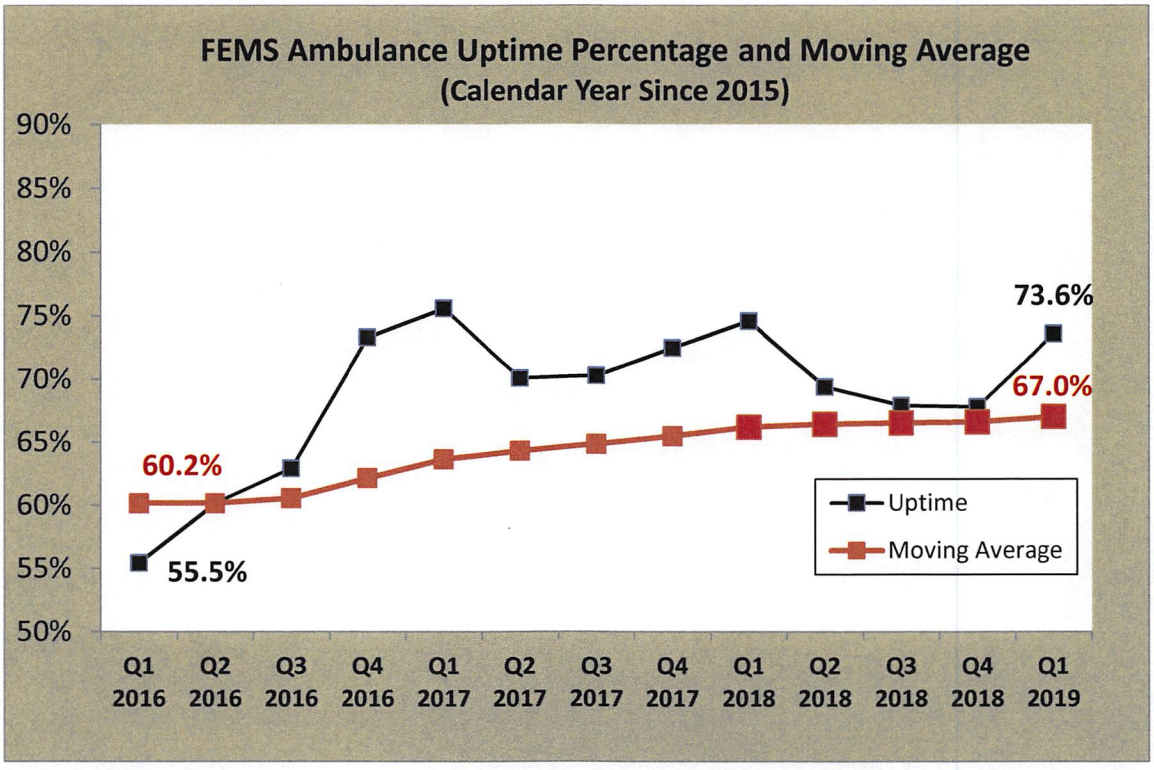
(2) The impact on the Department's fleet, including the ability to conduct preventative maintenance and the number of operational and reserve units available.

The launch of the AMR contract, as well as the addition of new ambulances to the Department's fleet, has had a positive impact on the Department's ability to conduct preventive maintenance, particularly for ambulances. This has contributed to an increase in the number of operational and reserve units available. We are now able to maintain a repair and maintenance schedule for ambulances that also allows time for mechanics to participate in critical training and testing.

As the chart below shows, we have maintained an improved ambulance "up time" percentage during year two of the contract. We again approached the target of 75 percent in Quarter 2 of FY 2019, like last year:



Our ambulance uptime percentage and moving average over the past three years to date clearly shows the Department is making steady progress. See chart, below:



We now have a full complement of "frontline" and "reserve" units, including twenty reserve units that are used for the many special events that the District hosts throughout the year and for emergency mobilization operation plans. This high level of reserve units has allowed the Department to keep our fleet in good condition because we can take frontline units out of service to do regular preventive maintenance. We have not yet met our uptime goal for fire engines and ladder trucks; however, in FY 2018, we achieved some progress with improving their availability.

The Department has made significant progress in its fleet modernization program. As we receive new frontline apparatus, uptime should continue to improve. This has already begun to occur for engines. In calendar year 2018, we took delivery or placed into service: 18 engines, a tower truck, two hazmat vehicles, nine ambulances, and 24 support vehicles. We expect to continue to regularly take delivery of new vehicles in the coming year.

(3) The impact on the Department's training schedule.

The AMR contract continues to provide opportunities for training hours for all members. The Department prioritizes both the quality of instruction and maximizing the quantity of training hours in all disciplines for members. During the third year of the AMR contract, the Department continued to deliver a variety of types of EMS training including regular in-service EMS modular training for BLS and ALS providers, as well as a quarterly Paramedic Grand Rounds (PGRs) for its ALS providers. The PGRs are delivered by faculty from around the region, provide a yearly "hands-on" session and are at times interactive. In the summer of 2018 we partnered with George Washington University to provide skills training on endotracheal intubation, cricothyrotomies, and intraosseous infusion (IO) placement. In addition, a Mass Casualty Incident (MCI) plan to improve response preparedness in the daily operational plan was approved by the DC Department of Health and training has been delivered to department members. The new mass casualty triage program (Sort, Assess, Lifesaving Interventions, Treatment/Transport, or SALT) is now operational. Our firefighting companies also received training in a multitude of subjects, including multi-company firefighting evolutions and on our new fireground standard operating guidelines (SOGs).

The Department has developed a comprehensive annual training calendar with detailed monthly schedules. See below for a list of classes that have been held within the last year:

April 2018
NIMS ICS 300 and 400
Pediatric Advanced Life Support (PALS) - CNMC
Vehicle and Machinery Rescue Course
MSHA Tunnel Rescue Recertification Class
Engine Company Operations
Infectious Disease Outbreaks
Metro Tunnel Drill - Phase I
MSHA Tunnel Rescue Course
Metro Tunnel Drill - Phase I
Pediatric Advanced Life Support (PALS) - CNMC
Instructor II Course
Human Relations Sexual Harassment Prevention
Metro Tunnel Drill - Phase I
Supervisor I Course
May 2018

Pediatric Advanced Life Support (PALS) - CNMC
O2X Human Performance Workshop
Human Relations Sexual Harassment Prevention
Engine Company Operations
Metro Tunnel Drill - Phase I
NFA - Leadership and Supervision
Metro Tunnel Drill - Phase I
Swiftwater Rescue Course
Metro Tunnel Drill - Phase I
Marine Firefighting Course
Pediatric Advanced Life Support (PALS) - CNMC
Metro Tunnel Drill - Phase I
EMS Module 8 (Mental Health Safety)
Metro Tunnel Drill - Phase I
Advance Medical Life Support Refresher
June 2018
EMS Module 8 (Mental Health & Safety)
Supervisor II Course
Engine Company Operations
Infectious Disease Outbreaks
Metro Tunnel Drill - Phase I
Pre-Hospital Trauma Life Support Refresher
Advance Cardiac Life Support
Vehicle and Machinery Rescue Course
Metro Tunnel Drill - Phase I
Instructor I Course
Metro Tunnel Drill - Phase I
Advanced Cardiac Life Support
Advanced Medical Life Support
Trench Rescue Course
Metro Tunnel Drill - Phase I
Advanced Cardiac Life Support
July 2018
EMS Module 8 (Mental Health & Safety)
Engine Company Operations
Metro Tunnel Drill - Phase I
Advanced Cardiac Life Support
Seagrave Manufacturer Pumper Training
Paramedic Grand Rounds (ALS Skills Training)
Pediatric Advanced Life Support
Metro Tunnel Drill - Phase I
Pre-Hospital Trauma Life Support Refresher
Swiftwater Rescue Course
Advanced Cardiac Life Support
Pediatric Advanced Life Support
Seagrave Manufacturer Pumper Training
Paramedic Grand Rounds (Advanced Airway Skill Training)
EMS Module 9 (OB & Pediatric Emergency)

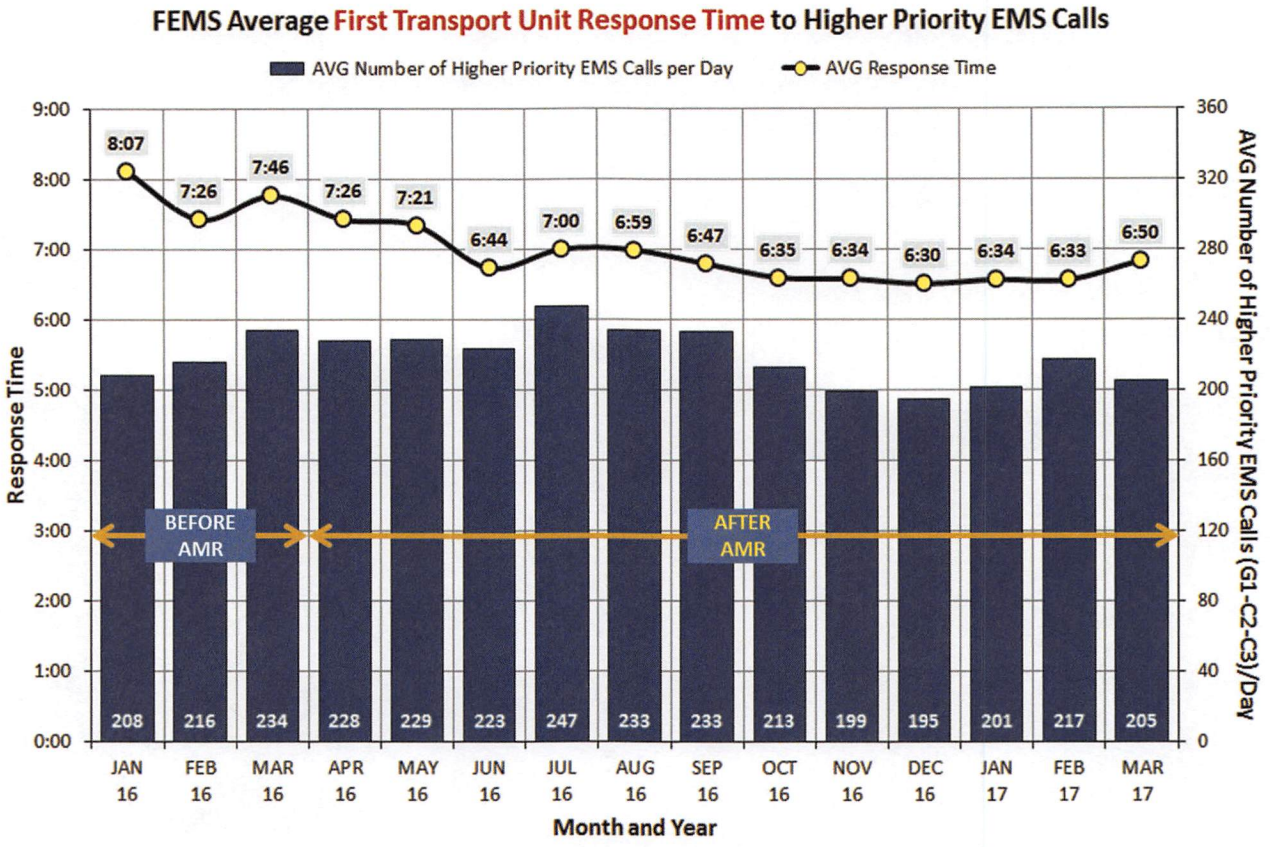
NFA - Leadership Thru Difficult Conversation
NIMS ICS 300 and 400
Advanced Medical Life Support
Advanced Cardiac Life Support
August 2018
Engine Company Operations
EMS Module 9 (OB & Pediatric Emergency)
Pediatric Advanced Life Support
Advanced Cardiac Life Support
Supervisor II Course
Fire Pattern Recognition (Fire Prevention)
Vehicle and Machinery Rescue Course
Pediatric Advanced Life Support
Rope Rescue Course
Infectious Disease Outbreaks
Seagrave Manufacturer Pumper Training
Advances Cardiac Life Support
September 2018
EMS Module 4 & 5 Make-Up (AMS, Wellness, HP-CPR)
Advanced Medical Life Support
Supervisor I Course
Confined Space Rescue Course
Advanced Medical Life Support
Emergency Boat Operations and Rescue Course
Pediatric Advanced Life Support
Paramedic Grand Rounds (Burn Injury/CO Poisoning)
Pre-Hospital Trauma Life Support Refresher
Multi-Company Firefighting Evolutions
Instructor I Course
Emergency Boat Operations and Rescue Course
Stress First Aid Peer Counseling Training
Advance Cardiac Life Support
October 2018
Multi-Company Firefighting Evolutions
Infectious Disease Outbreaks
MSHA Tunnel Rescue Recertification
Advanced Medical Life Support
Advanced Medical Life Support
Pediatric Advanced Life Support
Advanced Cardiac Life Support
Advanced Medical Life Support
Pierce Manufacturer Training
Pediatric Advanced Life Support
MSHA Tunnel Rescue Course
Advanced Medical Life Support
Pediatric Advanced Life Support
Pre-Hospital Trauma Life Support Refresher
Advanced Cardiac Life Support

Supervisor I Course
November 2018
Multi-Company Firefighting Evolutions
Advanced Medical Life Support
Advanced Cardiac Life Support
Advanced Medical Life Support
EMS Module 10 (Train the Trainer)
Pediatric Advanced life Support
EMS Module 10 (MCI & Field Triage)
Instructor I Course
SCBA Sustainment
Pre-Hospital Trauma Life Support Refresher
Advanced Cardiac Life Support
Pediatric Advanced Life Support
Advanced Medical Life Support
Advanced Cardiac Life Support
December 2018
Pediatric Advanced Life Support
Supervisor II Course
HazMat Technician
EMS Module 10 (MCI & Field Triage)
SCBA Sustainment
Advanced Medical Life Support
Advanced Cardiac Life Support
Mission Command Workshop
Advanced Medical life Support
Seagrave Manufacturer Pumper Training
Mission Command Workshop
Pediatric Advanced Life Support
Pre-Hospital Trauma Life Support Refresher
Advanced Cardiac Life Support
January 2019
EMS Module Make-Ups
Advanced Medical Life Support (Refresher)
Advanced Cardiac Life Support
Paramedic Ground Rounds (Case Review)
Advanced Cardiac Life Support
Pediatric Advanced Life Support
Pediatric Advanced Life Support
Pierce Manufacturer Pumper Training
Infectious Disease Outbreaks
Advanced Cardiac Life Support
Advanced Medical Life Support (Refresher)
Pediatric Advanced Life Support
February 2019
EMS Module Make-Ups
Health and Safety Officer
Supervisor II

Nurse Triage Line - Field Provider Referral (Train the Trainer)
Pediatric Advanced Life Support
Advanced Cardiac Life Support
Instructor II
Nurse Triage Line - Field Provider Referral (Battalions 2 & 4)
Step Up and Lead Seminar
ICS 300/400
Step Up and Lead Seminar
Advanced Medical Life Support (Refresher)
Pediatric Advanced Life Support
Incident Safety Officer
Stress First Aid - Peer Counseling
Advanced Cardiac Life Support
March 2019
EMS Module Make-Ups
Nurse Triage Line - Field Provider Referral (Battalions 2 & 4)
Supervisor III
Pierce Manufacturer Pumper Training
Advanced Cardiac Life Support (Refresher)
Supervisor III
Pediatric Advanced Life Support
Supervisor I
Supervisor III
HazMat: MX908 Meter Class
Tactical Emergency Casualty Care
Advanced Cardiac Life Support (Refresher)
Pediatric Advanced Life Support
Supervisor III
Seagrave Manufacturer Tower Training
Emergency Boat Operator
Instructor I
Leadership Series: Empowering Women to Lead Seminar
Advanced Cardiac Life Support (Refresher)

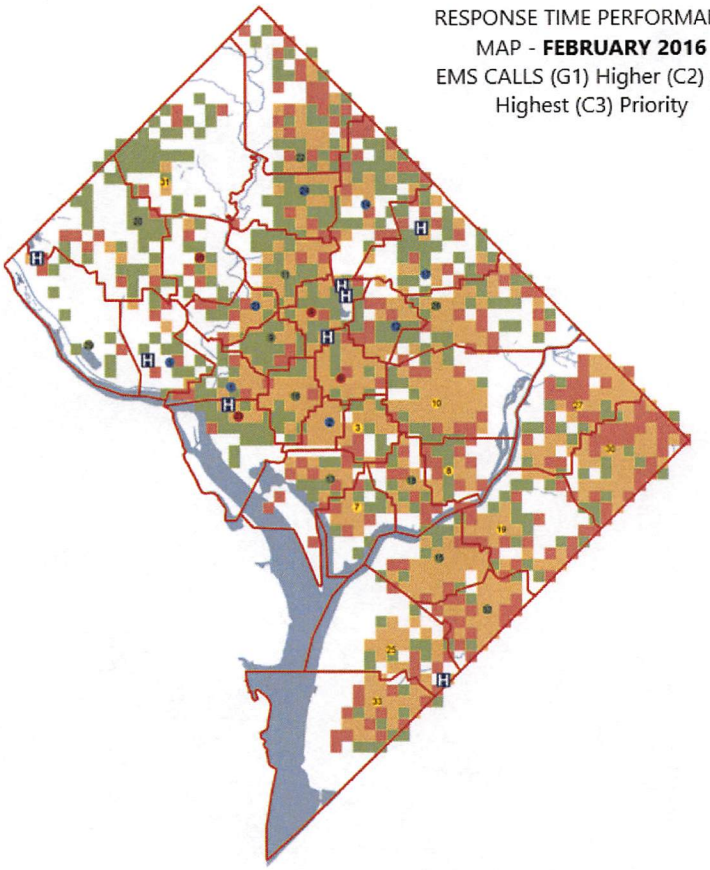
(4) (A) The impact on the Department's response times.

Since launching just over three years ago, the AMR contract has both improved the response time of the Department's ambulances, and significantly improved our ability to have an ambulance reserve which permitted the conversion of three BLS units to additional ALS units. Prior to implementation, average response of the first arriving FEMS transport unit to higher priority (ALS) EMS calls exceeded seven minutes. After implementation, average response times for FEMS transport units improved significantly over the first two years. See chart, below:

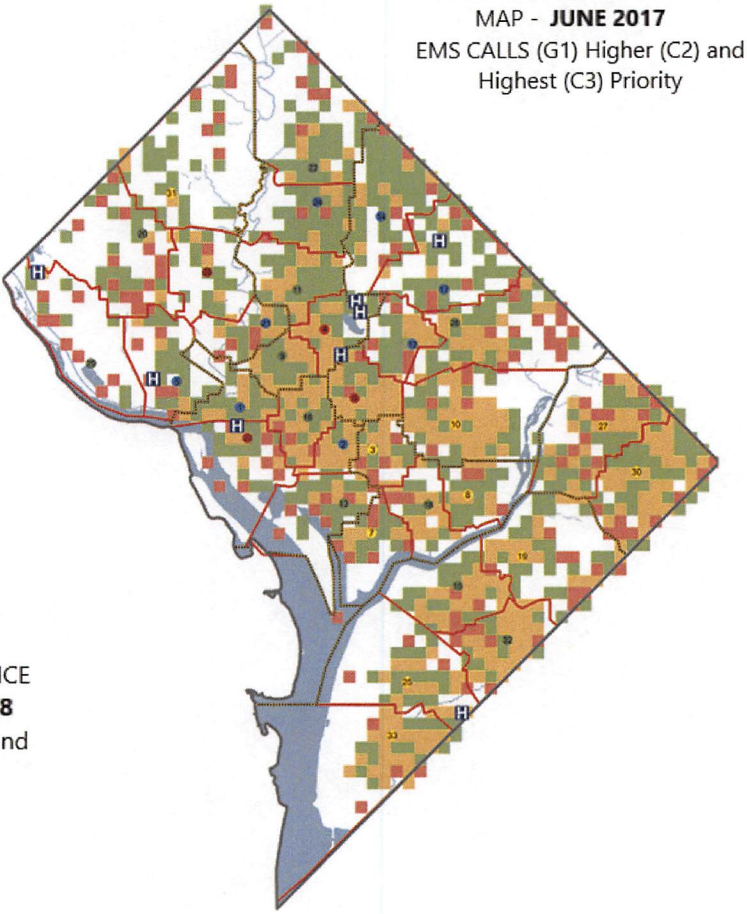


Call volume in calendar year 2018 and through the reporting period in 2019 exceeded prior year levels and stretched the Department's resources. Response times and hospital drop times consequently increased in Fall 2018; and in January and February, pressures on FEMS unit availability related to a combination of increased call volume and the Providence Hospital closure further exacerbated this challenge as described above.

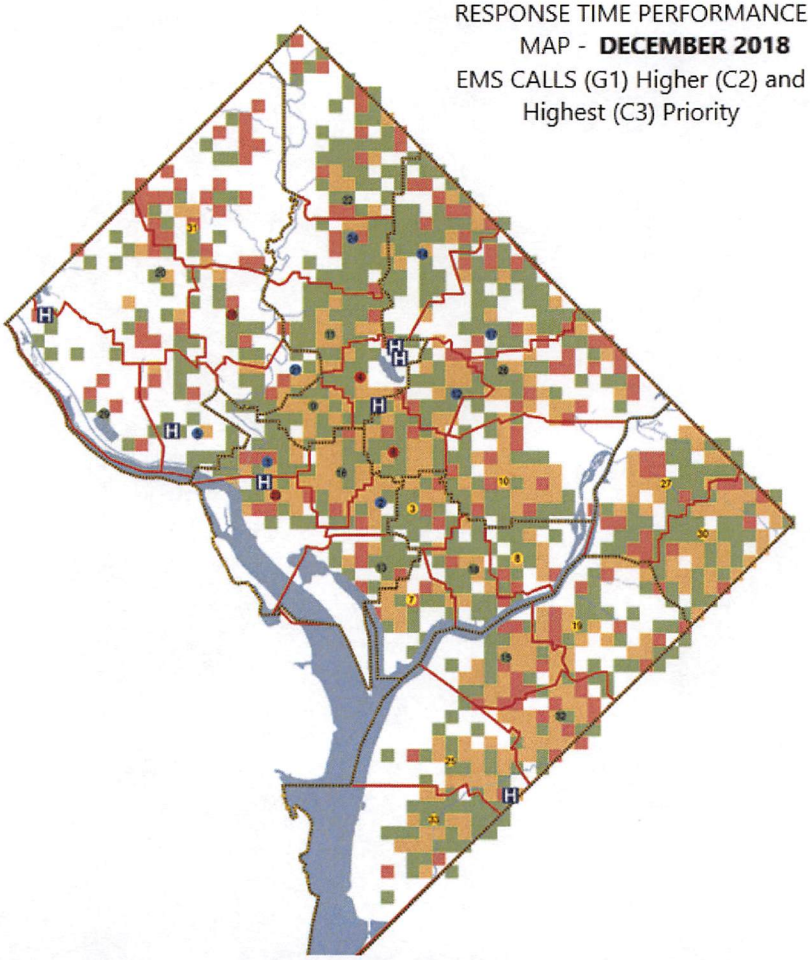
RESPONSE TIME PERFORMANCE
MAP - **FEBRUARY 2016**
EMS CALLS (G1) Higher (C2) and
Highest (C3) Priority



RESPONSE TIME PERFORMANCE
MAP - **JUNE 2017**
EMS CALLS (G1) Higher (C2) and
Highest (C3) Priority



RESPONSE TIME PERFORMANCE
MAP - **DECEMBER 2018**
EMS CALLS (G1) Higher (C2) and
Highest (C3) Priority



EMS Response Times
Measure 4 : First FEMS Transport Unit
Percentage of Responses in 9 minutes or Less

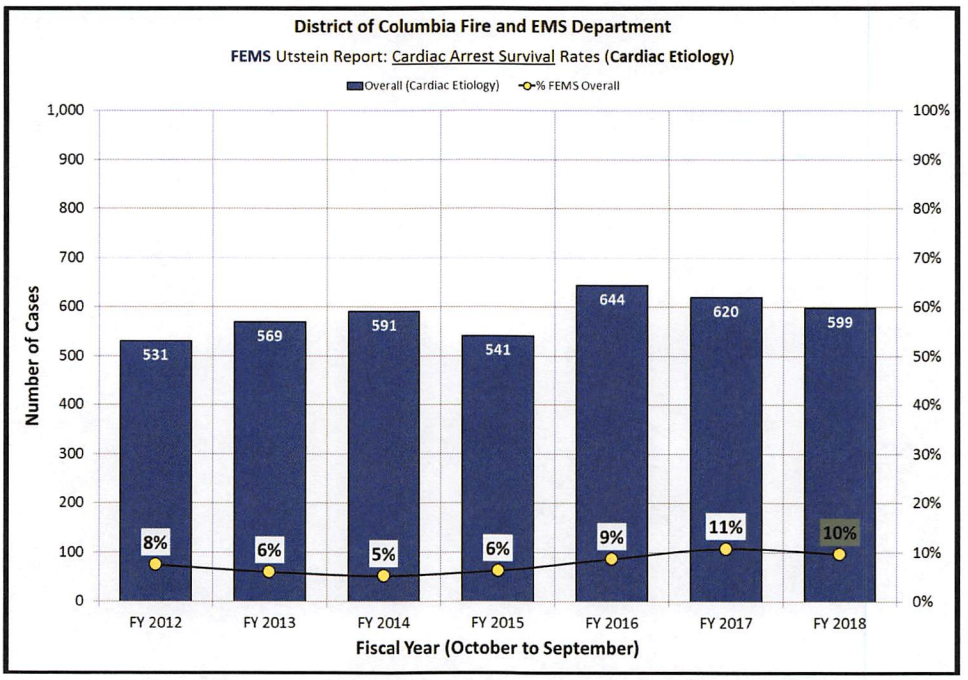
- 0 to 50%
- 50% to 90%
- 90% to 100%

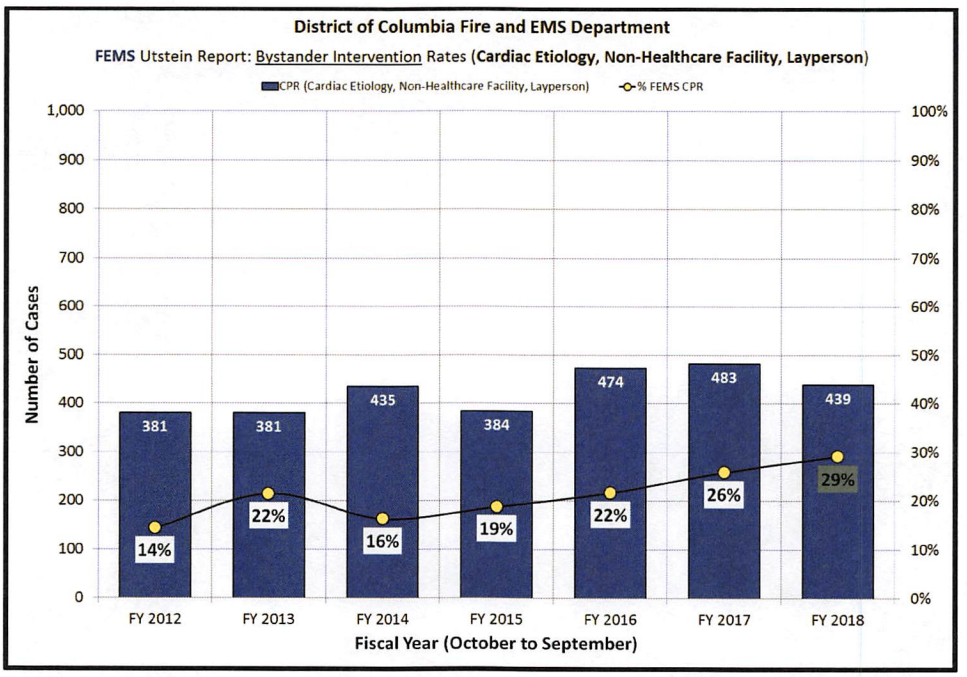
Company Type and Units

- ALS Engine Compancy (PEC)
- BLS Engine Company
- BLS Engine and Medic Unit
- PEC and Medic Unit
- Battalion District
- First Response Area

(4) (B) The impact on the Department's quality of patient care.

The Department continues to see progress in patient care outcomes. In FY18, we continued our positive trend in overall cardiac arrest survival rates, with double the rates of patients with cardiac etiology surviving cardiac arrest when compared with FY14 (see charts, below). We have trained over 50,000 residents in hands-only CPR since 2015 and we launched the Pulse Point app in 2018. We continue to see more cases where bystanders start CPR before we arrive. We believe this is contributing to more patients surviving:





The Department's Utstein cardiac survival rate (patients surviving non-traumatic cardiac arrests witnessed by bystander and found in a shockable rhythm) increased from 28.9 percent during 2017 to 43.1 percent in 2018. At the same time, the national survival rate for the same measure remained unchanged. In addition, the Department's Utstein Bystander cardiac arrest survival measure (patients surviving non-traumatic cardiac arrests witnessed by bystander, found in a shockable rhythm, and receiving bystander CPR and/or AED use) increased from 42.1 percent during 2017 to 48.6 percent in 2018. These categories are used to measure EMS performance because they are cases where EMS has the best chance at influencing patient outcome.

Measure	FY 2017	FY 2018
Overall (Cardiac Etiology)	10.80%	9.70%
Bystander Witnessed (Cardiac Etiology)	18.10%	15.80%
Unwitnessed (Cardiac Etiology)	4.80%	4.10%
Utstein (Cardiac Etiology, Bystander Witnessed, VF/VT)	28.90%	43.10%
Utstein Bystander (Cardiac Etiology, Bystander Witnessed, with CPR, VF/VT)	42.10%	48.60%
CPR (Cardiac Etiology, Non-Healthcare Facility, Layperson)	25.90%	29.20%
Public AED Use (Cardiac Etiology, Public Location, Layperson)	8.80%	9.80%

To put these graphs and charts in perspective, the District had an average of 35 lives saved from 2012-2015, and an average of 60 for 2016-2018. In sum, there were 75 additional cardiac arrest survivors from 2016-2018 than there would have been if we had kept the same cardiac arrest survival rates as 2012-2015.

(5) An assessment of the number of units, the number of personnel, the amount of training, and associated costs required to provide pre-hospital medical care and transportation without the use of third parties.

The Department estimates the cost of providing pre-hospital medical care and transportation without the use of a third party to be over $30 million. This would ultimately include the cost of adding 25 additional ambulances to the Department's fleet and 282 additional employees. Building this capacity would take approximately three to five years. This takes only the initial investment of personnel and equipment into consideration, and does not include the additional estimated expenditures of vehicle maintenance, equipment maintenance, and fuel. In addition, the Department would incur additional costs while engaging in the process of building apparatus capacity, and limitations in capacity for training and hiring.

(6) Recommendations for implementing any additional units, personnel, and training.

FEMS has undertaken several investments that have improved the performance of the Fire and EMS Department across the board: increased frequency, quality, and number of EMS training hours; improved ambulance response times; the creation of an ambulance reserve fleet; more effective maintenance of vehicles; and improved patient outcomes. Even with all the progress we have made the

District's EMS call volume remains one of the highest per capita call volumes in the nation. The FY 2020 budget includes funding to support the staffing of four additional ambulance transport units to our daily operational deployment, totaling 43 units per shift. With this enhancement, we seek to absorb the increasing call volume from the District's growing population and help address increased hospital drop time and unit availability challenges associated with the closure of Providence Hospital. The Department has located these units in areas where they are most likely to impact persistent high call volume and longer response times and tested locations during FY19 using overtime.

At this time, the Department does not recommend providing the same service that AMR provides in-house. First, providing the service through AMR is much more cost efficient, with the expenditure of $12 million on the AMR contract versus the potential expenditure of approximately $30 million for doing so in-house, plus marginal on-going staffing and maintenance cost. Second, a significant percentage of calls handled by AMR are for non-emergency medical problems that would be better addressed through non-emergency health care services.

(7) Conclusion

The third year of the AMR contract has supported the Department's efforts to improve the delivery of pre-hospital medical care to the visitors and residents of the District. However, we cannot continue to improve EMS delivery without continuing to address demand.

The Department's innovative "Right Care, Right Now" (RCRN) Nurse Triage Line program continues to connect callers to 911 with non-emergency medical needs to non-emergency transportation, self-care, and walk-in appointments at community clinics. As we have reported previously, the nurse asks the caller questions and assesses his or her symptoms so that the nurse can refer the caller to the most appropriate non-emergency medical care available, either self-care or care at a community clinic or urgent care clinic in the caller's neighborhood. Over 2,000 patients have been diverted to date. While FEMS is still analyzing data from the first year of operations, patients who have gone through this process generally have a more positive health care and transportation experience than they would have taking an expensive ambulance ride to an emergency department. Efforts to increase utilization of the triage nurse for as many calls as appropriate, and to also reduce 911 volume are ongoing.

The research the Department reviewed before program launch suggested it may take a few years for patient behavior to change. As long as the program remains safe, efficient, and responsive to patients' health care needs, many patients eventually should stop using 911 and hospitals for their primary care needs.

To further address our non-emergency call volume, the Mayor established the Mayor's Commission on Healthcare Systems Transformation to make recommendations on strategies and investments necessary to transform health care delivery in the District of Columbia. The Commission's work has focused on developing recommendations to alleviate existing barriers and current stresses in the District's health care system, improving access to primary, acute, and specialty care services (including behavioral health care), and addressing health system capacity issues for inpatient, outpatient, pre-hospital and emergency room services. In addition, the commission has focused on promoting an equitable geographic distribution of acute care and specialty services in communities east of the Anacostia River. We are honored to have a position on the Commission, in recognition of the impact that this issue has on our agency and the pivotal role the Department plays in the delivery of health care in the District.

We look forward to working with AMR, the OUC, our employees, our two labor unions, Mayor Bowser, the Council, and the community to continue to build on the Department's progress.